

REMARKS

Formal drawings are submitted herewith under separate Letter to the Official Draftsperson. Approval by the Examiner of these drawings is respectfully requested.

Claims 10 and 18-38 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as their invention.

The Examiner has indicated that claims 18-38 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. § 112, second paragraph, set forth in the Office Action.

Claim 1 has been amended to correct an obvious typographical error. Claims 10, 18, 19, 28, and 29 have been deleted. Claims 20 and 30 have been amended as suggested by the Examiner. It is believed these changes overcome the rejection under 35 U.S.C. § 112.

Claims 1, 3, 5-9, and 11 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2 and 3 of U.S. Patent No. 6,658,037 in view of Berggren (US Pat. 5,881,089) and Kozlov (US Pat. 6,160,828).

Applicants submit herewith a Terminal Disclaimer disclaiming any portion of a patent issuing on the present invention which would extend beyond the terms of U.S. Patent No. 6,658,037. The Terminal Disclaimer is believed to overcome the use of this rejection as a basis for the rejection of the claims in this case.

As noted on page 2 of Applicants' specification, Berggren et al.'s disclosure is devoted entirely to laser cavities that are either planar waveguides or whispering gallery mode microdisks. There is simply no disclosure whatsoever in Berggren et al. of how to make or use a vertical laser cavity structure that could operate with incoherent pump light. The mere mention in one sentence that vertical cavities are "possible" would suggest nothing at all to one of ordinary skill in the art about how to construct such a vertical cavity. There is simply no operative teaching of any vertical laser cavity structure within Berggren et al., much less a teaching of a vertical laser cavity structure operable with incoherent pump light, as claimed.

Berggren et al. do disclose a dielectric layer, but there is no motivation to modify the '037 patent to include a transparent layer between the first electrode and the laser cavity, since Berggren et al. do not disclose a vertical laser cavity which functions with incoherent light. In any event, the '037 patent has been removed from consideration by the Terminal Disclaimer.

Moreover, there is no obvious way to modify or adapt Berggren et al.'s planar waveguide or whispering gallery mode microdisk structures to arrive at a vertical laser cavity operative with incoherent pump light. For example, the disclosure of cladding regions in FIG. 1 of Berggren et al. provides not even the slightest clue as to how one would configure the reflectors of a vertical laser cavity to achieve lasing with incoherent pump light. Certainly, vertical laser cavity structures in general are known (see, for example, prior art FIG. 1 of the subject application). However, Berggren et al. disclose nothing that would suggest what one might do differently from the prior art to arrive at vertical laser cavity capable of operating with incoherent pump light. There is simply nothing in the various embodiments disclosed by Berggren et al. that bears on vertical laser cavity architectures or suggests anything about such architectures.

Kozlov et al. 6,160,828 was discussed in the Background of the Invention of the present application. The deficiency was noted that it requires that a cavity be excited by another laser source. Kozlov et al. do not drive by an incoherent light source as required by all the claims in this case. Kozlov et al. do not have an incoherent light-emitting device and the driving arrangement for such device set forth in element b) of claim 1. It is an important feature of the present invention that it can use an incoherent light source, and Kozlov et al. do not use an incoherent light source. Applicants fail to see how Kozlov et al. can be combined with Berggren et al., since Berggren et al. provide no effective disclosure of a vertical laser cavity structure. There would be no motivation to combine Kozlov et al. and Berggren et al. and no purpose would be achieved.

In view of the foregoing, it is believed that Berggren et al. and Kozlov et al., taken singly or in combination, disclose features set forth in all the independent claims in this case which use an incoherent light-emitting device.

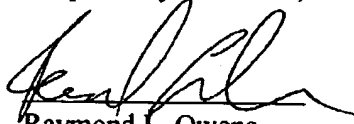
Claims 2, 4, and 12-17 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 2, 4, and 12-17 should now be allowable since they depend upon base claims discussed above.

It is believed that these changes now make the claims clear and definite and, if there are any problems with these changes, Applicants' attorney would appreciate a telephone call.

In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,



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Enclosures